2.5 Proving Angles Congruent - Notes Date: \_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Learning Targets** | **Help!** | **I’m getting there…** | **I’m almost there…** | **Yes! I totally got this! ☺** |
| 1. I can define vertical angles, adjacent angles, complementary angles, supplementary angles, and linear pair. |  |  |  |  |
| 2. I can identify the relationship between vertical angles, supplementary angles, complementary angles, and linear pairs. |  |  |  |  |
| 3. I can prove all right angles are congruent. |  |  |  |  |
| 4. I can prove congruent and supplementary angles are right angles. |  |  |  |  |

Definitions:

\*\*Vertical Angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Adjacent Angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Complementary Angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Supplementary Angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Linear Pair: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Example A: Identify the pairs of numbered angles that are related as follows:



1

2

3

4

5

1) Complementary angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



2) Supplementary angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



3) Vertical angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



4) Adjacent angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Theorem 2-1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Theorem 2-4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\*\*Theorem 2-5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Example B: Name an angle (or angles) that is/are:

Q

R

S

T

U

V

1) Supplementary to ∠QSU \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



2) Adjacent and congruent to ∠VSU \_\_\_\_\_\_\_\_\_\_\_\_\_



3) Supplementary to ∠EOA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) A pair of vertical angles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example C: Solve for the missing variables.



(x + 90)°

(4x)°

1. 2.



(3x + 35)°

(4x)°



y°



(3x - 3)°

75°

(y + 5)°

(9y - 7)°

(3x + 1)°

(9y - 7)°

3. 4.



**Making Conclusions:**

When making conclusions, it is very important to NOT assume information from a figure. However, there is some information we can!

**Can Assume Cannot Assume (unless marked)**



Example 2: Decide whether or not the following can be assumed.

T



P

Q

W



V

1. W is the midpoint of

